ATTACHMENT ZA RESCUE COLLEGE 20 MAR 2006

Claims 1 - 11: (Cancelled)

12. (New) An isomerization process comprising:

- contacting a slurry or a solution comprising a meso or meso-like form of at least one bridged metallocene compound of group 4 of the Periodic Table of the Elements having C_2 or C_2 -like symmetry with an isomerization catalyst of formula (I):

$$[R_4W]^+X^- \qquad (I)$$

wherein W is nitrogen or phosphorus;

R, equal to or different from each other, are C_1 - C_{40} hydrocarbon radicals optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements; two R can optionally join to form a saturated or unsaturated C_5 - C_6 membered cycle containing W or two R can optionally join to form a radical of formula (II):

$$\begin{array}{c}
R^{1} \\
R^{1} = \\
R^{1}
\end{array}$$
(II)

wherein R^1 , equal to or different from each other, are C_1 - C_{20} hydrocarbon radicals optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements; P is phosphorous bonded with a double bond to W; and

X is a halide.

13. (New) The isomerization process according to claim 12, wherein the slurry or solution comprises a mixture

comprising the meso or meso-like form of at least one bridged metallocene compound of group 4 of the Periodic Table of the Elements having C_2 or C_2 -like symmetry, and a racemic or racemic-like form of at least one bridged metallocene compound of group 4 of the Periodic Table of the Elements having C_2 or C_2 -like symmetry.

- 14. (New) The isomerization process according to claim 12, wherein R are linear or branched, cyclic or acyclic, C_1 - C_{40} -alkyl, C_2 - C_{40} alkenyl, C_2 - C_{40} alkynyl, C_6 - C_{40} -aryl, C_7 - C_{40} -alkylaryl or C_7 - C_{40} -arylalkyl radicals, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements; two R can optionally join to form a saturated or unsaturated C_5 - C_6 membered cycle containing W; and X is chloride or bromide.
- 15. (New) The isomerization process according to claim 12, wherein W is nitrogen.
- 16. (New) The isomerization process according to claim 12, wherein the isomerization process is carried out in an aprotic solvent.
- 17. (New) The isomerization process according to claim 16, wherein the aprotic solvent is polar or apolar.
- 18. (New) The isomerization process according to claim 16, wherein the aprotic solvent is an optionally halogenated aromatic or aliphatic hydrocarbon, optionally containing heteroatoms belonging to the group 16 of the Periodic Table of the Elements.

- 19. (New) The isomerization process according to claim 16, wherein the aprotic solvent is an ether.
- 20. (New) The isomerization process according to claim 12, wherein the isomerization process is carried out in presence of one or more ethers.
- 21. (New) The isomerization process according to claim 12, wherein the isomerization process is carried out at a temperature ranging from 0 to a temperature below a temperature of decomposition of the bridged metallocene compound.
- 22. (New) The isomerization process according to claim 12, wherein the bridged metallocene compound having C_2 symmetry or C_2 -like symmetry has formula (III):

$$R^3$$
 R^2
 R^2
 R^3
 R^2
 R^3
 R^3
 R^3
 R^3
 R^3

wherein M is a transition metal belonging to group 4;

Q, equal to or different from each other, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, R^8 , OR^8 , $OCOR^8$, SR^8 , NR^8_2 , and PR^8_2 , wherein R^8 is a linear or branched, cyclic or acyclic, $C_1\text{-}C_{20}\text{-}alkyl$, $C_2\text{-}C_{20}$ alkenyl, $C_2\text{-}C_{20}$ alkynyl, $C_6\text{-}C_{20}\text{-}aryl$, $C_7\text{-}C_{20}\text{-}alkyl$ ardical

optionally containing one or more Si or Ge atoms; or two Q can optionally form a substituted or unsubstituted butadienyl radical or OR'O, wherein R' is a divalent radical selected from C_1 - C_{20} alkylidene, C_6 - C_{40} arylidene, C_7 - C_{40} alkylarylidene and C_7 - C_{40} arylalkylidene radicals;

n is an integer equal to an oxidation state of M minus 2;

L is a divalent bridging group selected from a C_1 - C_{20} alkylidene, a C_3 - C_{20} cycloalkylidene, a C_6 - C_{20} arylidene, a C_7 - C_{20} alkylarylidene, or a C_7 - C_{20} arylalkylidene radical optionally containing heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, and a silylidene radical containing up to 5 silicon atoms;

 R^2 and R^3 , equal to or different from each other, are hydrogen, halogen, or linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radicals, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements;

T, equal to or different from each other, is a moiety of formula (IIIa) or (IIIb):

$$R^7$$
 R^6
 R^5
 T^1
 R^{11}
(IIIa)
(IIIb)

wherein the atom marked with symbol * bonds to the atom marked with the same symbol in the bridged metallocene compound;

 T^1 is sulphur, oxygen, or $CR^{10}{}_2$, or NR^{12} , wherein R^{10} , equal to or different from each other, are hydrogen, halogen, or are linear or branched, cyclic or acyclic, $C_1\text{-}C_{20}\text{-}alkyl$, $C_2\text{-}C_{20}$ alkenyl, $C_2\text{-}C_{20}$ alkynyl, $C_6\text{-}C_{20}\text{-}aryl$, $C_7\text{-}C_{20}\text{-}alkyl$ aryl or $C_7\text{-}C_{20}\text{-}aryl$ alkyl radicals, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements; and R^{12} is a or linear or branched, cyclic or acyclic, $C_1\text{-}C_{20}\text{-}alkyl$, $C_2\text{-}C_{20}$ alkenyl, $C_2\text{-}C_{20}$ alkynyl, $C_6\text{-}C_{20}\text{-}aryl$, $C_7\text{-}C_{20}\text{-}alkyl$ aryl or $C_7\text{-}C_{20}\text{-}aryl$ alkyl radical, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements;

 T^2 is CR^{10} or nitrogen, wherein R^{10} is hydrogen, halogen, or a linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radical, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements, with the proviso that if T^2 is nitrogen, T^1 is CR^{10}_2 ;

 R^4 , R^5 , R^6 , R^7 , and R^{11} , equal to or different from each other, are hydrogen, halogen, or linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radicals, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements; or two adjacent R^4 , R^5 , R^6 , R^7 , R^{10} and R^{11} form at least one 3-7 membered ring optional containing heteroatoms belonging to groups 13-17 of the periodic table.

23. (New) The isomerization process according to claim 22, wherein M is zirconium, or hafnium;

Q are equal and are halogens, R^8 , OR^8 , or NR^8_2 , wherein R^8 is preferably a C_1 - C_{10} alkyl, C_6 - C_{20} aryl or C_7 - C_{20} arylalkyl group, optionally containing one or more Si or Ge atoms;

L is a divalent group $(ZR_{m}^{9})_{q}$;

Z is C, Si, Ge, N or P; and

 R^9 , equal to or different from each other, are hydrogen or a linear or branched, cyclic or acyclic, C_1 - C_{20} -alkyl, C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_6 - C_{20} -aryl, C_7 - C_{20} -alkylaryl or C_7 - C_{20} -arylalkyl radicals, or two R^9 can optionally form an aliphatic or aromatic C_4 - C_7 ring.

24. (New) The isomerization process according to claim 22, wherein R^2 and R^{11} , equal to or different from each other, are linear or branched C_1 - C_{20} -alkyl radicals;

 R^4 and R^{10} , equal to or different from each other, are hydrogen or C_6 - C_{20} -aryl, or C_7 - C_{20} -arylalkyl radicals;

T¹ is sulphur; and

T² is a CR¹⁰ group.